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PREVALENCE OF ANEMIA AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC IN AKTC HOSPITAL, ALIGARH (U.P), INDIA

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ABSTRACT

ANEMIA is one of India's major public health problems. Pregnancy is a vulnerable period in the life of a woman for the development of anemia. It contributes to maternal and foetal mortality and morbidity. In India, 16% of maternal deaths are attributed to anemia.**Objective:** To estimate prevalence of anemia among pregnant womenand the various sociodemographic factors associated with it.**Method:**A cross-sectional study was carried out among 150 pregnant women attending Antenatal Clinic of Ajmal Khan Tibbiya college Hospital, AMU Aligarh (UP), India from January to May 2000. 150 pregnantwomen were selected using a systematic random sampling technique, they interviewed and information regarding sociodemographic factors was also recorded, Hemoglobin estimation was done by Sahli's Haemoglobinometer and data was analyzed.**Results:** Overall prevalence of anaemia among the pregnant women was found to be 92%. 29 pregnant women werefound to have severe anaemia, 60 had moderate anaemia, and 49 had mild anaemia.
Further, findings of the study revealed that the prevalence was higher among young women, women belonging to low socio-economic status and women with high parity.**Conclusions**: High prevalence rate of anaemia observed in the present study suggests to implement various preventive strategies, especiallydietary counselling, nutritional education, health educationand monitoring of the iron and folic acid supplementation. Early detection and effective management of anaemia in pregnancy can contribute substantially to reduction in maternal morbidity and mortality.

INTRODUCTION

Anaemia is the most common nutritional deficiency disorder in the world. WHO estimates that over one third of the world's population suffers from anemia[1]. India continues to be one of the countries with the highest prevalence of anemia.[2] Anemia in pregnancy accounts for one fifth of maternaldeathsandisamajorfactorresponsible for low birth weight. In India, 16% maternal deaths are attributed to anemia. The association between anemia and adverse pregnancy outcome, higher incidence of preterm and low birth weight deliveries has been demonstrated.[3]

A high prevalence of anaemia in pregnancy was observed (96.5%), of which 22.8 per cent had mild, 50.9 per cent had moderate and 22.8 per cent had severe anaemia in a study conducted in Delhi[4]. The reported incidence of anaemia varied from 40 to 90 per cent in various states of India and contributed to 10 to 15 per cent of the direct maternal deaths[5].

Bothered about the estimated high prevalence of anaemia in the country, five major surveys (National Family Health Survey (NFHS) 2[6] and 3[7], District Level Household Survey 2[8] (DLHS), Indian Council of Medical Research (ICMR) Micronutrient Survey[9] and Micronutrient Survey conducted by National Nutrition Monitoring Bureau[10] (NNMB) were undertaken to estimate prevalence of anaemia in the country. All these showed that over 70 per cent of preschool children were anaemic. NNMB, DLHS and ICMR surveys showed that over 70 per cent of pregnant women and adolescent girls in the country were anaemic (Fig. 1). Anaemia begins in childhood, worsens during adolescence in girls and gets aggravated during pregnancy.

Inviewofthelowdietaryintakeofiron, high prevalence of anemia and its adverse health consequencesthe National Nutritional Anemia Prophylaxis program (NNAPP) was initiated in 1970, topreventanemiaamong pregnant women.[11] However, high prevalence of anemia among pregnant women persists despite the availability of this effective, low-cost intervention for preventionand treatment [(11)] Unfavorablesociodemographicfactorsare the major barriers to the efforts put in place for the prevention of anemia during pregnancy.

MATERIAL AND METHOD

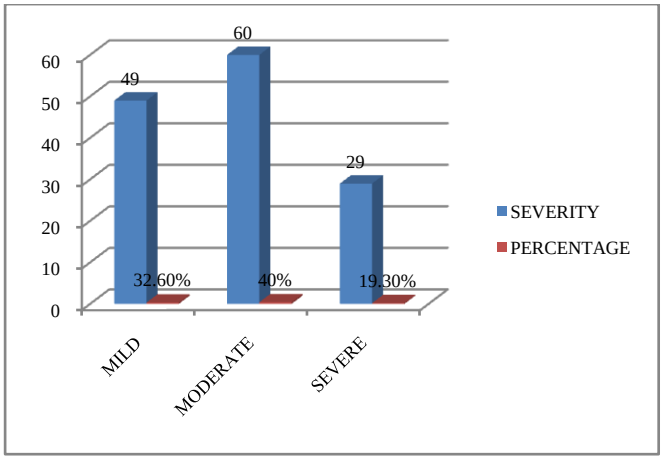
The present cross-sectional study was carried out at Ajmal khan Ttibbiya College Hospital in Aligarh (U.P), India, to determine the prevalence of anemia and the association of the various sociodemographic factors with anemia in pregnant women.

The AKTC Hospital is situated in the civil line area of Aligarh city. The Ante Natal Care (ANC) clinic is conducted weekly on every Wednesday. The study was carried out from January to May

2000. A total 150 pregnant women visiting the ANC OPD were included in the study by systematic random sampling technique. The participants with the history of amenorrhea underwent a urine pregnancy test and vaginal examination and Ultra Sonography in doubtful cases to diagnose pregnancy. Pregnant women with multiple pregnancies, history of high-grade fever in the last 3 months, bleeding disorder in the previous pregnancy and pregnancy with chronic diseases were excluded from the study. Informed consent was obtained and explanation as to the purpose of the study was offered.

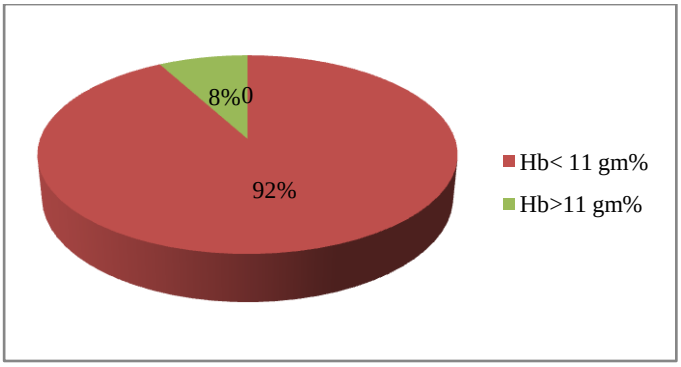
Thus, selected women were interviewed data were collected by the help of proforma and clinical examination was done. A detailed demographic profile of the women, that is, age, age at first pregnancy, religion, type of family, family size, educational level of woman and occupation of woman etc was collected. Socioeconomic classification suggested by B.G.Prasad was adopted and a dietary history was taken with the help of 24-hr recall method.

OBSERVATIONS AND RESULTS



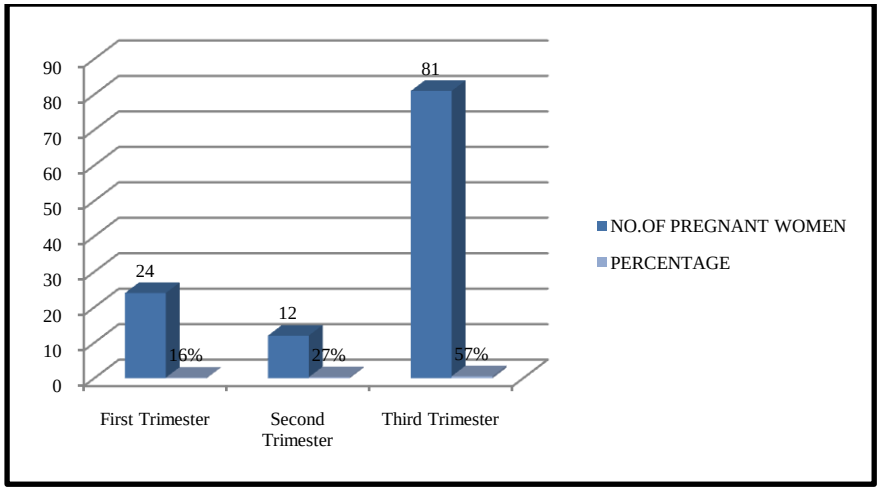
Prevalence of Anaemia

Only 12 (8%) subjects were within the normal range of hemoglobin (≥11gm/dl). 138 (92%) were anemic. Among 138, 49 (32.6%) were mild anemic, 60 (40%) were moderate anemic & 29 (19.3%) were severely anemic. Thus the prevalence of mild anemia was high in comparison to the other degrees of Anemia.



Distribution of Pregnant Women According to Anaemic State

The prevalence of anaemia in pregnancy was found out to be 92%.138 pregnant women had their Hb% less than 11gm% and 12 pregnant women were those who had Hb level of more than 11 gm%.



Trimester wise Distribution of Pregnant women

In our study, 24(16%) of the pregnant women were in first trimester, 42 (27%) were in second trimester and 84 (57%) were in third trimester.

TABLE1: SOCIO-DEMOGRAPHIC PROFILE OF THE STUDY PARTICIPANTS

Parameters	Participants (n=150)	Percentage
Age distribution		
15-20	7	4.6
20-25	59	39.3
25-30	38	25.3
30-35	25	16.6
35-40	15	10.0
40-45	6	4.0
Religion		
Muslims	128	85.3
Non-muslims	22	14.7
Socio-economic		
I	8	5.3
II	19	12.7
III	42	28
IV	52	34.7
V	29	19.3
Literacy Status		
Illiterate	93	62
Literate	57	38
Occupation		
House wife	135	90
Working	15	10
Parity		
Primi gravida	33	22
Secondgravida	05	3.3
Multigravida	112	74.6
Total	**150**	**100%**

The demographic characteristics of the study subjects are summarized in Table 1.

The majority of the subjects were between ages 20 to 35 years with an average age of 27.5years. About 4.6% ofallthepregnanciesoccurredamongteenagersand 30% were among women aged 30 years and above.It wasobservedthatthemaximumnumberofthestudy

subjects128 (85.3%) wereMuslim.Table1. Shows that the proportion of pregnantwomen suffering from anemia in classes I and II were less (5.3% and 12.7%, respectively) as compared with the lower socioeconomic status (28% and 34.7%in classes III–V, respectively).It was obvious that as the socioeconomic status decreased, the prevalence of anemia increased.

TABLE 2: ASSOCIATION OF PREVALENCE OF ANAEMIA WITH VARIOUS SOCIODEMOGRAPHIC VARIABLES

Variables	Anaemia Present	Anaemia Absent	X^2value	p-value
Age				
15-20	4 (57.1%)	3 (42.9%)	18.01	0.0029
20-25	55 (93.2%)	4 (6.8%)		
25-30	35 (92.1%)	3(7.8%)		
30-35	23 (92%)	2 (8%)		
35-40	15 (100%)	00		
40-45	6 (100%)	00		
Parity				
Primi Gravida	26 (78.8%)	7 (11.2%)	32.04	0.00001
Second Gravida	02(40%)	3 (60%)		
Multi Gravida	110 (98.2%)	2 (1.8%)		
Literacy status				
Illiterate	84(96.5%)	3 (3.44%)	5.82	0.015
Literate	54(85.7%)	9(14.28%)		
Occupation				
House wife	127(94.07%)	8(5.92%)	7.87	0.00502
Working	11(73.33%)	4(26.66%)		
Trimester				
1st Trimester	21(87.5%)	3 (12.5%)	2.219	0.329
2nd Trimester	39 (92.8%)	3 (12.5%)		
3rd Trimester	78 (92.8%)	6 (7.14%)		

In our study, when the prevalence of anaemia was compared with various socio demographic variables significant association was noted with age,parity, literacy status and occupation ($p < 0.05$). Whereas variable like Trimester ($p = 0.329$) did not show any positive association.

DISCUSSION

The present study was a cross sectional study with an attempt to find out the prevalence of anaemia in pregnant women and to study the various socio demographic variables associated with it. Although strong action has been taken to prevent anemia in Indian women, still the prevalence of anemia during pregnancy is found to be 92% from this study.In the present study, the prevalence of anaemia was found to be 92%. The prevalence of mild, moderate, severe anaemia was 32.6%, 40% and 19.3% respectively. In a similar study carried out by Lokareet al (2012) the overall prevalence of anaemia among pregnant women was found to be 87.2%[12].The prevalence of mild, moderate, severe anaemia were observed as 24.7%, 54.5%, and 7.9%, respectively. In both the studies we observed that prevalence of anaemia was high and the prevalence of moderate anaemia was high as compared to mild and severe forms.[12]

In our study, total 150 pregnant women participated among them, 64.6% of the study participants were in the age group of 20–30 years, 85.3% of the study participants were Muslims by religion and 14.7% were Non-Muslims. In a similar study carried out in Aurangabad, Maharashtra, 71% of the study participants were in the age group of 20-29 years, 51.7% were Muslim by religion.[12]when compare both the studies Muslim participants were more in both because Aligarh Civil Line area and Aurangabad both were Muslim dominated areas.

It has been observed in the present study that the prevalence of anemia was high 60% among younger age group of pregnant women i.e.20-30 years which indicates that the nutritional status in child hood & adolescence is poor and little attention is paid to the correction of anemia in the pre-pregnancy period. Very little is done to improve the nutrition of the young girl, the growing adolescent & the married women. Higher prevalence (100%) was observed in women below 21-25years by Manjulatha et al (2014).[13]

Low socioeconomic status was associated with a higher prevalence of anemia in pregnancy. A cross-sectional study in New Delhi had revealed that there was a trend of decreasing severity of anemia with higher per capita income as found in the present study[14].

In the present study, it was found that anemia increases steadily with decrease in the level of educational attainment. One study found that number of anemic women were more in illiterate group (53.7%) as compared with literate (37.1%).[15]

CONCLUSION

The present study has shown a very high prevalence of anemia in pregnancy (92%). Anemia was seen even in literate women. Socio-economic status, literacy of women, early age of marriage, multiparty and lack of awareness related to health problems are the major determinants that contribute to the problem.

Efforts should be made towards the early detection and treatment of anaemia before pregnancy. Regular screening for anemia in adolescent girls and providing iron supplementation at school level are required. Anaemia control programme should be executed more resourcefully with dietary counselling, nutritional education, health education and information about reproductive health facilities are important measures to be undertaken.

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